Paper No. 29

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PEDRO S. BARANDA, ARY O. MELLO and HUGH J. O'DONNELL

Appeal No. 2003-1178
Application No. 09/218,990

ON BRIEF

Before COHEN, ABRAMS, and BAHR, Administrative Patent Judges.

ABRAMS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-3, 5-15, 18, 20-23 and 45-50. Claim 4 has been canceled and claims 16, 17, 19 and 24-44 have been withdrawn as being directed to non-elected invention.

We REVERSE AND REMAND TO THE EXAMINER.

BACKGROUND

The appellants' invention relates to a tension member for an elevator. An understanding of the invention can be derived from a reading of exemplary claim 1, which has been reproduced below.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Schuerch	4,534,163	Aug. 13, 1985
Bruyneel et al. (Bruyneel)	5,461,850	Oct. 31,1995

Claims 1-3, 5-15, 18, 20, 23 and 45-50 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bruyneel.

Claims 21 and 22 stand rejected under 35 U.S.C. § 103 as being unpatentable over Bruyneel in view of Schuerch.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejections, we make reference to the Answer (Paper No. 25) and the final rejection (Paper No. 21) for the examiner's complete reasoning in support of the rejections, and to the Brief (Paper No. 24) and Reply Brief (Paper No. 26) for the appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the

respective positions articulated by the appellants and the examiner. As a consequence of our review, we make the determinations which follow.

The appellants' invention is directed to improvements in the tension members used for lifting and lowering elevators. It provides a flat tension member that, according to the appellants, distributes the load better than the prior art devices and is more flexible, allowing sheaves of smaller diameters to be used, which reduces the torque required to drive the sheaves (specification, pages 1-3). The invention is defined in claim 1 in the following manner:

> 1. A tension member for providing lifting force to a car of an elevator system, comprising:
>
> a plurality of discrete cords, constructed from a plurality of individual wires, wherein all wires are less than .25 millimeters in diameter, said plurality of cords being arranged side-by-side;
>
> a coating layer substantially enveloping said plurality of cords and having an aspect ratio defined as the ratio of width w relative to thickness t, greater than one.

The Examiner's Rejections

The test for obviousness is what the combined teachings of the prior art would have suggested to one of ordinary skill in the art. See, for example, In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). In establishing a prima facie case of obviousness, it is incumbent upon the examiner to provide a reason why one of ordinary skill in the art would have been led to modify a prior art reference or to

combine reference teachings to arrive at the claimed invention. See Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App. & Int. 1985). To this end, the requisite motivation must stem from some teaching, suggestion or inference in the prior art as a whole or from the knowledge generally available to one of ordinary skill in the art and not from the appellant's disclosure. See, for example, Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1052, 5 USPQ2d 1434, 1439 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988).

Claim 1 stands rejected under 35 U.S.C. § 103(a) as being obvious in view of the teachings of Bruyneel. In arriving at this conclusion, the examiner has found that Bruyneel discloses all of the subject matter disclosed in claim 1 "except for explicitly having all of the wires less than 0.20 [sic 0.25] mm in diameter." However, the examiner takes the position that since Bruyneel teaches that the wires in the cords of a cable can have diameters in the range of 0.15 mm to 1.20 mm, it would have been obvious to one of ordinary skill in the art "to have employed any wires [having] diameters within the disclosed range for constructing the cable." See Paper No. 21, pages 3 and 4. The appellants argue in rebuttal that Bruyneel fails to disclose or teach using a tension member having side-by-side cords and the aspect ratio recited in claim 1 for lifting an elevator, and that there is no suggestion to make the diameter of all of the wires in the cords less than .25 millimeters (Brief, pages 4 and 5).

To use the language of the appellants' claim 1, Bruyneel discloses a member comprising a plurality of discrete cords (12) constructed from a plurality of individual wires (16). The reference states that these cords may be "used as a hoisting cable or rope for applications in mines or elevators" (column 1, lines 15 and 16). The reference also discloses a conveyor belt comprising a plurality of cords arranged in side-by-side relationship and enclosed in a coating layer having an aspect ratio greater than 1 (Figure 9). However, the reference does not explicitly teach that the member shown in Figure 9 can be used as a tension member for providing lifting force nor, in our view would one of ordinary skill in the art consider that to be the case, inasmuch as a conveyor belt is not generally considered to be a member for providing lifting force.

With regard to the diameter of the wires, while Bruyneel discloses a range which encompasses the value recited in claim 1, we agree with the appellants that there is no suggestion in the reference which would have motivated one of ordinary skill in the art to select from this range the value of .25 mm or less as the diameter for the wires used in the conveyor belt of Figure 9. In this regard, we note that the appellants have attached importance to this value in achieving the benefits provided by their invention, which include improving the load distribution on the sheaves over which the lifting member passes and allowing sheaves of smaller diameter to be utilized. Specification, pages 2 and 3.

It is our opinion that Bruyneel fails to establish a prima facie case of obviousness with regard to the subject matter recited in claim 1, and therefore we will not sustain the rejection of claim 1 or of claims 2, 3, 5-15, 18, 20, 23 and 45-50, which are dependent therefrom.

We reach the same result, for the same reason, in the case of the rejection of claims 21 and 22, for the addition of Schuerch fails to overcome the deficiency in Bruyneel.

Remand To The Examiner

Among the references brought to the attention of the Patent and Trademark Office by the appellants in one of their information disclosure submissions (Paper No. 6) is PCT publication WO 98/29327, published on July 9, 1998, a copy of which is attached hereto. Figures 3-5 of this publication show tension members for providing lifting force to a car of an elevator system, which comprise a plurality of discrete cords arranged in side-by-side relationship and enveloped in a coating layer, with the aspect ratio being greater than 1. The publication states that steel hoisting ropes had been used in the past, but that they presented problems and were replaced by ropes formed of synthetic fibers (page 2). There follows an explanation of the shortcomings of the synthetic ropes, which included the fact that they had a large bending radius and therefore required sheaves of large diameter (page 3), but that the invention disclosed in the publication eliminated these drawbacks by making the rope "very thin, which

means that it has a small bending diameter," with the conclusions being expressed that the "thin and flat hoisting rope allows the use of a traction sleeve that is considerably smaller in diameter" and the flat shape of the rope "distributes the pressure imposed by the rope of the traction sheave" (page 4).

The problems with the prior art tension members and the solution and advantages provided by the lifting elements disclosed in this publication appear to be the same as those of the appellants' invention. This application therefore is remanded to the examiner for consideration of the disclosure and teachings of WO 98/29237 as they might impact the patentability of the appellants' claims.

CONCLUSION

Neither of the rejections is sustained.

The decision of the examiner is reversed.

The application is remanded to the examiner for action consistent with the comments made above.

REVERSED and REMANDED

IRWIN CHARLES COHEN
Administrative Patent Judge

NEAL E. ABRAMS
Administrative Patent Judge

JENNIFER D. BAHR
Administrative Patent Judge

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